

REMARKS/ARGUMENTS

Upon entry of this amendment, claims 1-3 and 8 will be amended, whereby claims 1-8 will be pending. Claims 1-3 and 8 are independent claims.

By the amendment herein, claims 1-3 and 8 have been amended to utilize similar terminology throughout each claim, and to remove step language in claim 8. Applicants note that “sugars” has been changed to ---sugar--- to utilize more uniform terminology through the claims; however, the claims still cover both “sugar” and “sugars” especially in the use of open claim language.

Reconsideration and allowance of the application are respectfully requested.

Consideration Of Information Disclosure Statements

Applicants express appreciation for the inclusion with the Office Action of initialed copies of the Form PTO-1449, whereby the Examiner’s consideration of the Information Disclosure Statement, filed February 20, 2004, is of record.

Applicants note that a Supplemental Information Disclosure Statement has been filed march 13, 2007, and a Second Supplemental Information Disclosure Statement is being submitted on even date herewith. The Examiner is requested to indicate consideration of the Supplemental Information Disclosure Statement and Second Supplemental Information Disclosure Statement by including an initialed copy of the Forms PTO-1449 submitted therewith with the next communication from the Patent and Trademark Office.

Claim Of Priority

Applicants' claim for foreign priority of JP 2002-312131, filed October 28, 2002, is acknowledge in the body of the Office Action. However, the Office Action does not acknowledge receipt of the certified copy of the priority application which was filed February 20, 2004. **Applicants therefore request that the Examiner acknowledge receipt of the certified copy in the next communication from the Patent and Trademark Office.**

Response To Claim Objections

Claim 4 is objected to as being separated from claim 1 by independent claims 2 and 3, with the objection, referring to MPEP 608.01(n) contending that, "A claim which depends from a dependent claim should not be separated therefrom by any claim which does not also depend from said dependent claim."

In response, Applicants submit that portion of the MPEP cited by the Examiner indicates in the following sentence that, "It should be kept in mind that a dependent claim may refer back to any preceding independent claim." There, does not appear to be any requirement that the independent claim being referenced be an immediately preceding independent claim.

Accordingly, this ground of objection should be withdrawn.

Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 1, 3 and 7-8 are rejected under 35 U.S.C. 112, second paragraph, as the rejection contends that the claims are indefinite in the recitation of "a group capable of reacting with the hydroxyl group".

In response, Applicants submit that one having ordinary skill in the art would readily understand the scope of the claims, especially in view of the disclosure in Applicants'

specification, at page 7, first full paragraph, wherein examples of the group represented by Y which is capable of reacting with a hydroxyl group in sugars is disclosed. Thus, examples of a group capable of reacting with the hydroxyl group are provided, and one having ordinary skill in the art would understand the scope of the claim.

Moreover, Applicants note that it appears that the rejection is asserting that the claim is functional in not reciting structure. The Examiner is reminded that functional language is permitted in a claim, and does not, in and of itself, render a claim indefinite. In this regard, the Examiner is referred to MPEP 2173.05(g), Functional Limitations, August 2006, Rev. 5, 2100-219, for a discussion of case law indicating that functional language is permissible, and does not, in and of itself, render a claim indefinite.

Accordingly, this ground of rejection should be withdrawn.

Art Based Rejection

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito Y. et al. (hereinafter "Ito"), Chem. Eur. J 2002, 8(14), 3076-3064), in view of Attardi et al.- also referred to in the rejection as Taddei et al. (hereinafter "Attardi"), Tet. Let. 41(2000) 7395-7399.

The rejection contends that Ito discloses the use of p-nitrobenzylpyridine (PNBP) for the detection of the monochloroacetyl (CAc) group in solid phase synthesis of oligosaccharides (sugars), and that the protecting groups presence (or absence) should be detectable with high specificity and precision.

The rejection states that Ito does not expressly disclose the use of an azo dye compound of the formula X-Y for the detection of the presence of hydroxyl groups, but contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to synthesize the TCT adduct of Disperse Red dye and to use it to monitor the presence of OH

groups on a solid phase during oligosaccharide synthesis, as well as to monitor the presence of chloroacetyl group using p-nitrobenzylpyridine (PNBP), because Ito discloses the use of PNBP to monitor the presence of OH groups during solid-phase synthesis of oligosaccharides, and Attardi discloses the use of an azo dye with strong structural similarity to Disperse Red and its addition to TCT to monitor the presence of OH groups in solid phase synthesis.

In response, Applicants submit that the colorization of the chloroacetyl group in the present invention is a unique technique which is not within the prior art of record, and one having ordinary skill in the art would not arrive at Applicants' claimed subject matter based upon any proper combination of the prior art of record.

In the case of synthesizing a sugar chain on a solid phase, the completion of two reactions need to be monitored, namely, a glycosylation reaction (disappearance of hydroxyl group), and a deprotection reaction of the protecting group, e.g., chloroacetyl group, in order to obtain the reaction product successfully. The present invention has been made on the basis of such finding. However, neither of the documents utilized in the rejection discloses nor suggests such finding, and Applicants submit that there is not an appropriate basis in the cited prior to arrive at Applicants' claimed subject matter. Thus, the prior art does not provide sufficient indication why one having ordinary skill in the art, absent Applicants' disclosure, would have combined the disclosures of Ito which is directed to tag-reporter and resin capture-release strategy in oligosaccharide synthesis, and Attardi which is directed to a sensitive visual test for detection of OH groups on resin.

Expanding upon the above, Applicants note that Ito discloses, at page 3078, last paragraph on the page, that the real-time monitoring of CAC deprotection, a color test report by Riguera, came to their attention. They note that this color test was originally developed for the

detection of alcohols and consists of three step operations; 1) conversion to tosylate, 2) treatment with *p*-nitrobenzylpyridine (PNBP), and 3) deprotonation of the pyridinium salt with piperidine. Ito discloses that they expected that the CAc group would be detectable by PNBP/piperidine treatment, which generates the strongly colored salt 4 (Scheme 2).

Further, Ito discloses at page 3079, right-hand column, the full paragraph, the TLC color test, which was carried out according to Riguera's protocol, was used to monitor the reaction and judge completion of deprotection.

In contrast, Attardi does not relate to such a method, but relates to a sensitive visual test for detection of OH groups on resin. Moreover, in Attardi, a fluorescent substance is used. There is no reason why one having ordinary skill in the art would this disclosure with Ito absent Applicants' disclosure, and as noted above, it is improper to use Applicants' disclosure to support a prior art combination.

Thus, the rejection should be withdrawn at least for the above.

Still further, Applicants note that if a fluorescent substance is used on a solid resin, in particular when the excitation. wavelength is near the fluorescent wavelength, the light which is emitted from a fluorescent substance is used for the excitation of another neighboring fluorescence substance since the distance between the fixed fluorescent substances is close. As a result, even if the amount of substance is increased on a solid support, a fluorescent intensity is not necessarily increased. Therefore, it is not preferred to use fluorescence in such case.

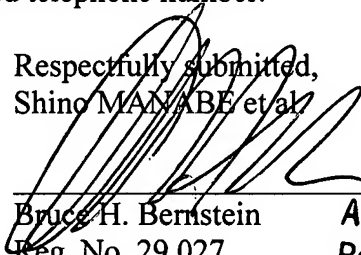
CONCLUSION

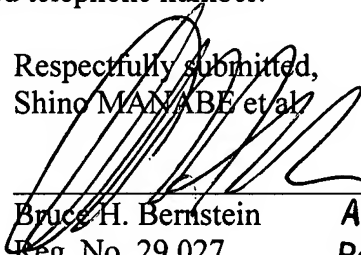
In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the objection and rejections of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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